

Vegetation Assessment of the Gila NF by Means of Ecological Response Units

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6th Natural History of the Gila Symposium, Silver City, NM, February 26, 2016



Terrestrial Ecological Response Units (ERUs)



Ponderosa pine/evergreen oak forest ERU

- ★ characterize sites with similar potential
- ★ represent the climax vegetation under natural disturbance regimes and biological processes

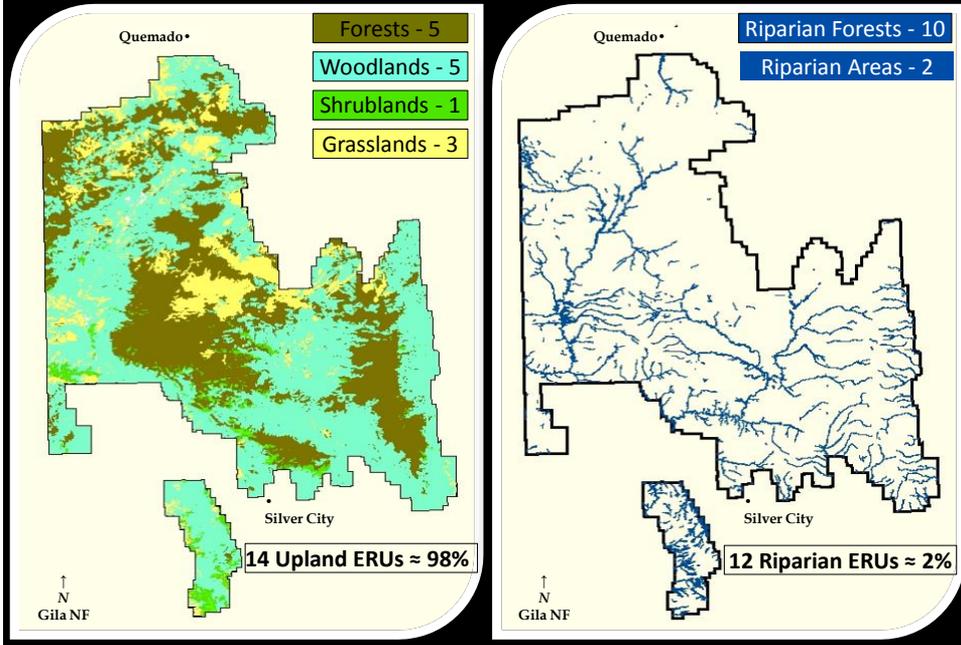
- ★ facilitate landscape scale analysis and strategic planning



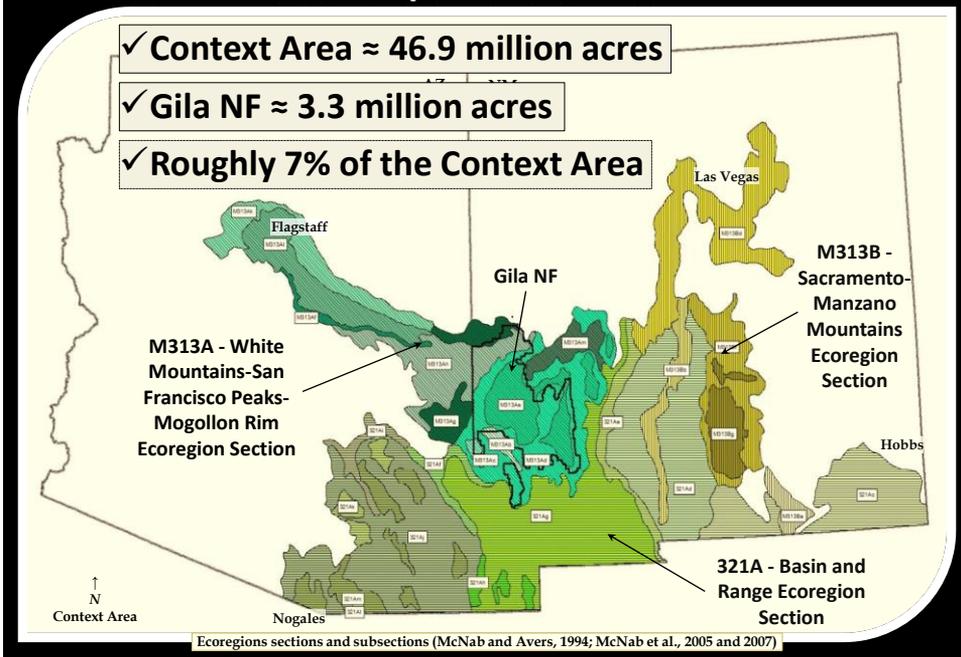
Colorado Plateau/Great Basin grasslands ERU

ERU = Site Potential + Historic Disturbance Regime

Ecological Response Units of the Gila NF



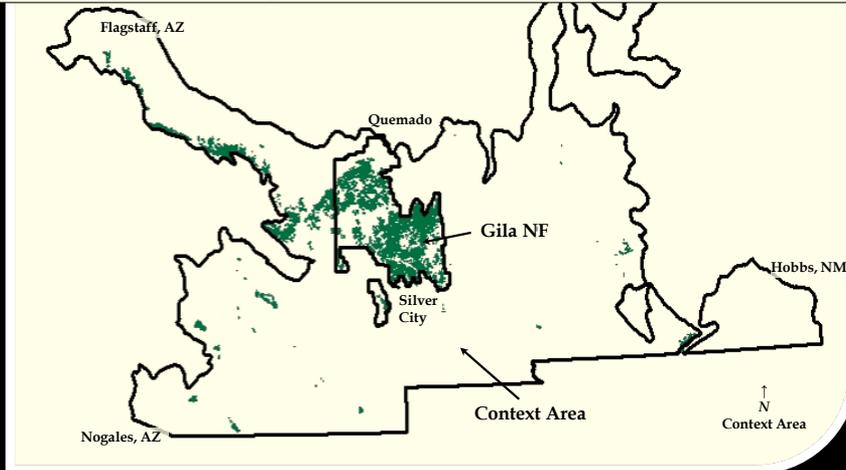
Context Area Landscape for Gila NF ERU Assessment



Ponderosa Pine/Evergreen Oak within the Context Area “Spatial Niche”

✓ Ponderosa Pine/Evergreen Oak ≈ 623,000 ac. within the Context Area

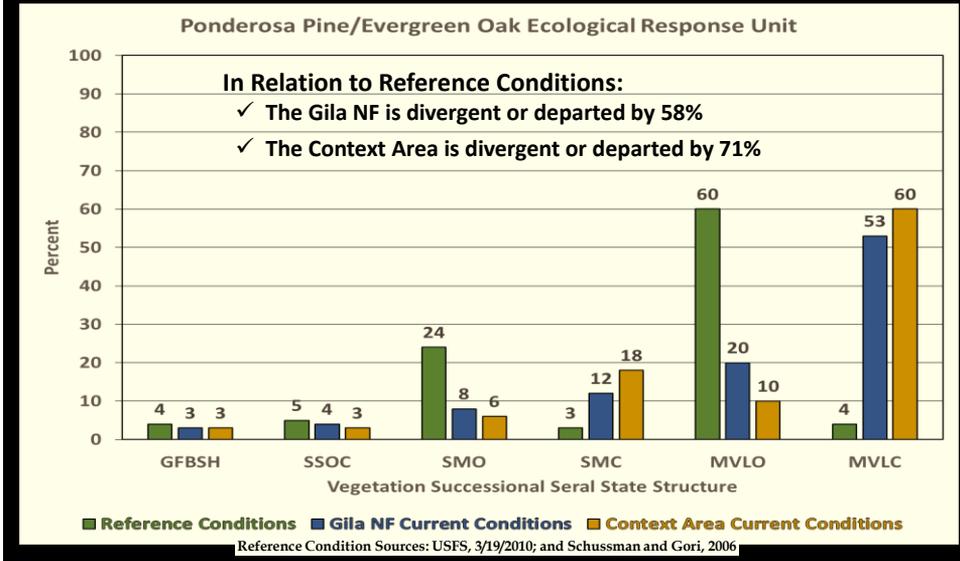
✓ Ponderosa Pine/Evergreen Oak ≈ 378,000 ac. within the Gila NF



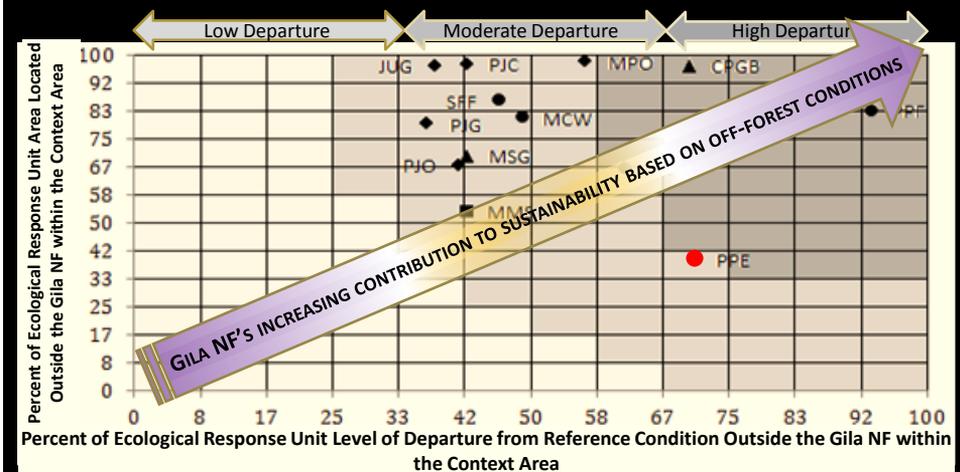
Ponderosa Pine/Evergreen Oak Forest Ecological Response Unit

- * within Gila ≈ 378,000 ac or 11.6% of the forest's acreage
- * within context Area ≈ 623,000 ac or 1.3% of the Context Area's acreage
- * nearly 61% of this ERU is located on the Gila NF
- * therefore the Gila has a greater proportional representation than the Context Area

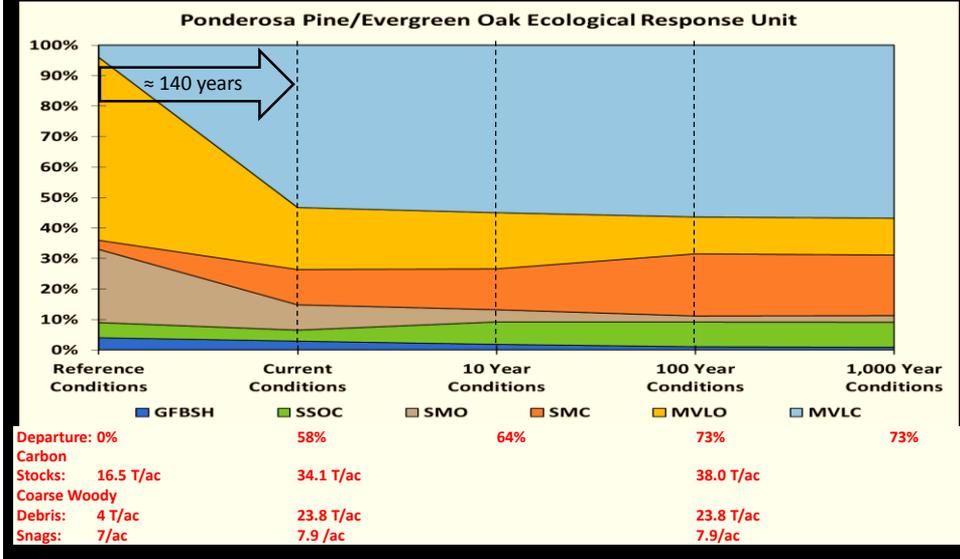
Vegetation Seral State, Successional Structure and Composition



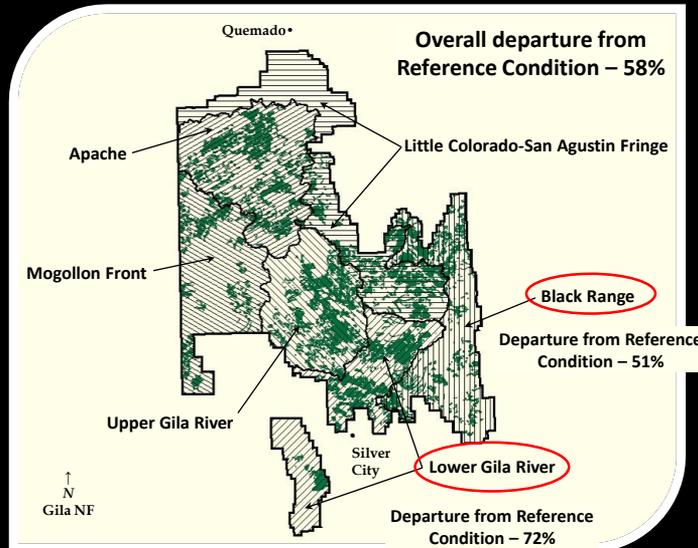
Spatial Niche Analysis, Potential Gila NF's Contribution to Sustainability Off-forest within the Context Area



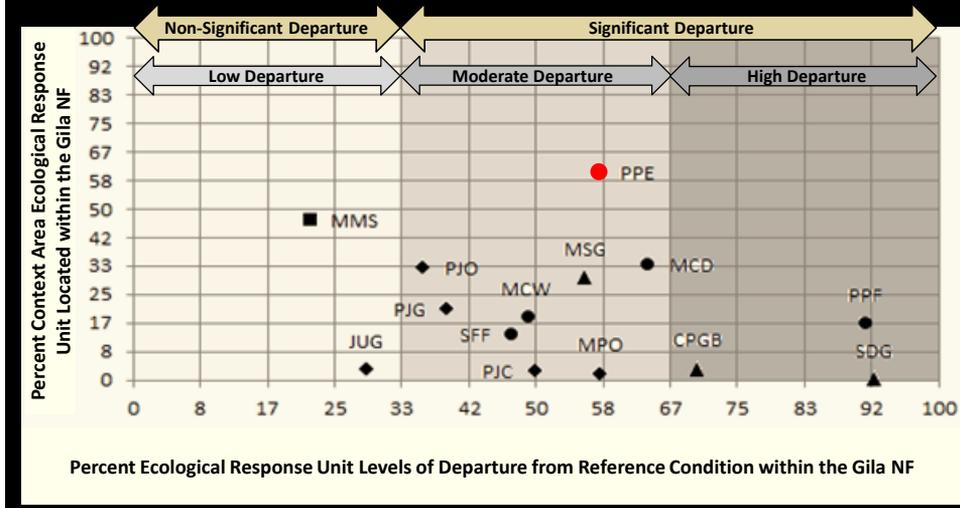
Seral State Successional Structure Following State and Transition Modeling Based on Current Management Activities



Ponderosa Pine/Evergreen Oak ERU within the Gila NF's Local Scale Units



Current Departure from Reference Conditions for all Gila NF Upland Ecological Response Units



Other Areas of Analysis within the Vegetation Assessment

- ✓ **Vegetation**
overstory and understory composition, cover, production, range condition and trend
- ✓ **Fragmentation characteristics**
patch size and trend
- ✓ **Fire regime condition class**
percent of ecological response unit in each class
- ✓ **Climate change**
vulnerability and uncertainty
- ✓ **Coarse woody debris**
size and amount per acre and trend
- ✓ **Snags**
size and number per acre and trend
- ✓ **Carbon storage**
above- and below-ground and trend

Ecosystem Drivers and Stressors

System Drivers

Predominate Climate Regime

Ecological Processes

Disturbance Regimes

and Stressors

Climate Change

Weather Variability

Altered Ecological Processes

Altered Disturbance Regimes

Human Uses

- ✓ Duration & Return Interval
- ✓ Geographic Extent
- ✓ Reversibility/Manageability

Risk to Ecological Integrity and Sustainability Matrix

CURRENT DEPARTURE FROM REFERENCE CONDITION (58%)	MAJOR SYSTEM STRESSOR(S)	REFERENCE CONDITION DEPARTURE TREND AFTER 100 YEARS (73%)		
		TOWARD REFERENCE CONDITION (> 5% CHANGE)	STATIC (± 5% CHANGE)	AWAY FROM REFERENCE CONDITION (> 5% CHANGE)
SIGNIFICANT DEPARTURE (34-100%)	NO	RISK ADDRESSED	LEGACY OF PAST MANAGEMENT OR DEVIATION DUE TO CURRENT MANAGEMENT	POTENTIAL FOR HIGH RISK
	YES (MODERATE VULNERABILITY)	POTENTIAL RISK	POTENTIAL FOR HIGH RISK	LIKELY HIGH RISK
NON-SIGNIFICANT DEPARTURE (0-33%)	NO	NO RISK	NO RISK	POTENTIAL RISK
	YES	POTENTIAL RISK	POTENTIAL RISK	POTENTIAL FOR HIGH RISK

SOURCES: USFS, 3/19/2010; SCHUSSMAN AND GORI, 2006; AND TRIEPKE, 2015

Thank You!

